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ABSTRACT

A study was conducted of shifts in student demand for programs offered by the Illinois community colleges, focusing on enrollment and completion patterns from fiscal years 1981 through 1984 by program area. Four indicators were used in the study. First, enrollments were analyzed by examining changes that had taken place in the fall opening headcount in various program areas. Second, enrollment patterns were analyzed in terms of changes in the number of credit hours taken in broad programmatic funding categories. Third, the number of students completing programs was examined to determine if shifts had occurred in the type of programs being completed. Fourth, the ratio of program completers to program enrollments was analyzed. Study findings included the following: (1) during the 4-year period, the enrollment in community colleges decreased, while the number of students completing programs increased; (2) the decline in enrollments during the last 2 years studied occurred in the areas of remedial/adult basic/adult secondary education and general education; (3) in the baccalaureate/transfer programs, all four measures of change in student demand indicated a growth trend; (4) while the overall demand for occupational programs also appeared to increase, the credit hours generated decreased; and (5) the occupational program area with the largest demand was business, followed by health and trade and industrial education. (EJV)

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A Study of Shifts in Enrollment and Completion Patterns in Illinois Public Community College Programs

Illinois Community College Board
509 South Sixth Street, Suite 400
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JC 860328

A STUDY OF SHIFTS IN ENROLLMENT AND COMPLETION PATTERNS IN ILLINOIS PUBLIC COMMUNITY COLLEGE PROGRAMS

If any one word could be used to describe today's world, it would be the word "change". We live in an era of rapid change -- technological change, work force change, life-style change, to name only a few. Because of these changes, one would also expect changes or shifts to occur in student demand for programs in the educational systems. To ascertain if and where changes have occurred in Illinois public community colleges this report examines enrollment and completion patterns from Fiscal Years 1981 through 1984 by program areas.

Four indicators of student demand are used in the study. First, enrollments are analyzed by examining the changes that have taken place in the fall opening headcount of students enrolled in various program areas. Second, enrollment patterns are analyzed by examining changes that have occurred in the number of credit hours taken in the broad programmatic funding categories used by the Illinois Community College Board. Third, the number of students completing programs is examined to determine if shifts have occurred in the type of programs in which students are graduating. Fourth, the ratio of program completers to program enrollments is analyzed to determine the changing relationship between student demand for programs in which they are enrolled and in which they eventually complete. While this is not a direct measure of student demand, it provides a measure of persistence and changing enrollment patterns and is thus, a proxy indicator of demand. Taken singly, each of the indicators has some problems associated with its use in measuring student demand. Examined together, it is possible to make inferences regarding student demand for program areas within the community college system.

Ideally, each of the indicators would be analyzed in greater detail than occurs in this study. For example, the study does not include an analysis of full- and part-time enrollment or an analysis of programs by degree type (certificate vs. associate degree). In addition, it was necessary to group the occupational programs into broad categories. In the future, the data should be available for this type of detailed analysis. However, this report does provide in summary form a basis for beginning to examine shifts in student demand among community college programs.

ENROLLMENT BY PROGRAM AREAS

Total fall term opening headcount enrollments in Illinois community colleges have been in a period of fluctuation since the early 1980s. Enrollment accelerated by almost 11 percent between Fiscal Years 1980 and 1981 and experienced an additional 7.6 percent growth the next year. Overall growth

Table 1

FALL HEADCOUNT ENROLLMENTS BY PROGRAM AREAS AND FISCAL YEAR

PROGRAM AREAS	FY 1981	FY 1982	FY 1983	FY 1984	Trend Change	FY 1985
1.1						
BAC./TRANSFER	103,143	112,292	117,898	132,304	19.1	129,232
Program Enr.	103,143	112,292	117,898	118,078		112,483
Course Enr.	--	--	--	14,226		16,749
% TOTAL	28.7	29.0	30.0	37.1	26.9	35.8
1.2						
OCCUPATIONAL	108,252	111,345	118,046	121,988	8.4	112,378
Program Enr.	108,252	111,345	118,046	114,562		104,391
Course Enr.	--	--	--	7,426		7,987
% TOTAL	30.1	28.8	30.4	34.2	14.9	31.1
1.5						
GENERAL STUDIES	40,665	54,637	57,577	40,033	-21.0	50,169
% TOTAL	11.3	14.1	14.8	11.2	-16.4	13.9
1.6						
VOC. SKILLS	12,834	20,228	21,834	16,525	9.7	22,683
% TOTAL	3.6	5.2	5.6	4.6	-4.2	6.3
1.4, 1.7, 1.8						
REM/ABE/ASE	41,734	48,443	43,461	15,992	-64.0	39,092
REM	41,433	5,967	3,279	2,217		2,228
ABE	185	32,821	28,405	7,653		28,746
ASE	116	9,655	11,777	6,122		8,118
% TOTAL	11.6	12.5	11.2	4.5	-61.8	10.8
UNKNOWN	52,419	39,568	29,006	15,924	-60.0	7,632
% TOTAL	14.6	10.2	7.5	4.5	-58.2	2.1
TOTAL	359,047	386,513	387,822	356,643	-5.6	361,186
% TOTAL	100.0	100.0	100.0	100.0		100.0
Annual % Change	--	7.6	0.3	-8.0		1.3

SOURCE: E1 Data

peaked in Fiscal Year 1983 and enrollments have been declining since that time. Table 1 presents total fall opening enrollment by program areas for Fiscal Years 1981 through 1985. Trend changes were calculated by computing a percent change between an average of the first three years' enrollments and the 1984 data. (Data are presented for Fiscal Year 1985 but were not included in the trend change because other data in the report are not yet available for Fiscal Year 1985.) The overall trend change shows a decrease of 5.6 percent in total enrollment.

Baccalaureate/Transfer Programs. Enrollments in baccalaureate/transfer programs have increased steadily during the time period examined. The trend change for this category is 19.1 percent. The trend change in baccalaureate/transfer' share of total enrollment is 26.9 percent. In other words, not only has actual enrollment increased in this area but also its share of enrollment has increased at an even faster rate. It should be noted that while this increase has occurred it has been influenced by a technical coding change that occurred with the data. Beginning in 1984, a category for baccalaureate/transfer course enrollees was initiated. Students taking courses in this area but who are not working toward a transfer degree are now coded separately. These enrollments are presented in Table 1 as "Course Enrollees" under the broad baccalaureate/transfer category. Before 1984, these students were located either in the baccalaureate/transfer counts or in the unknown category. However, even if these course enrollee students are not counted in the transfer totals, an increase in enrollment has occurred for the group as a whole.

Occupational Programs. Although the increase was not as large as the increase in the baccalaureate/transfer area, enrollment in occupational curricula also increased over the four-year period from 1981 through 1984. A trend change of 8.4 percent is reported for occupational enrollment. The occupational category's share of total enrollment also increased by 14.9 percent. Coding changes also were initiated in 1984 to allow for course enrollees. Prior to 1984, students who were not declared majors in occupational curricula had either been coded as curricula majors, vocational skills students, or in the unknown curricula category. If course enrollees are removed from the 1984 data, the trend change still shows an increase in occupational enrollments although a decrease occurred between 1983 and 1984.

General Studies Programs. Enrollments in the general studies area follow a similar pattern found in total enrollment. Enrollments in this area experienced increases from 1981 through 1983. A relatively large enrollment decrease was experienced in 1984, causing a trend change decrease of 21 percent and a trend change share decrease of 16.4 percent. In 1983, funding for general studies courses decreased. While course and program enrollments are different, this funding change may have influenced how general studies students were classified. General studies enrollments in 1985 experienced an increase from the 1984 figure but did not reach the level of enrollment found in 1982 and 1983.

Vocational Skills Programs. The vocational skills category was expanded in 1978 to accommodate students enrolled in 1.6 vocational skills courses as well as students enrolled in 1.2 occupational courses but not enrolled in an

occupational program. The type of student included in the vocational skills category has varied. Some of the students classified now as "occupational course enrollees" were included previously in the vocational skills area. In addition, some students classified previously in the "unknown" curricula area may be classified now in the vocational skills area. As was the case with general studies enrollments, the pattern of enrollment was one of increase through the early 1980s with a decrease reported in 1984. The trend change analysis shows an increase of 9.7 percent with a trend change of negative 4.2 percent in the category's share of total enrollment. As occurred in general studies, fall opening enrollment in vocational skills experienced an increase in 1985 bringing enrollments to their highest level since the base year of 1981.

REMEDIAL/ABE/ASE Programs. Fall opening enrollments in remedial, adult basic and adult secondary education have been grouped together because it is difficult to examine trends in these three areas separately due to shifts occurring among the areas during the time period being studied. For the most part, data for the three areas were reported under the remedial group in 1981. Taken as a group, the trend change for the areas indicated a major decline. This decline is due to an unusually large decrease in enrollments at City Colleges of Chicago in 1984, primarily in adult basic and adult secondary education. Adult basic enrollments increased from 7,653 in the fall of 1984 to 28,746 in the fall of 1985. If 1984 were eliminated from consideration and the trend change were based on the average of 1981 through 1983 and 1985, the trend change would be -12.2 precent as compared to -64.0 percent when based on 1984 data. The -12.2 percent trend change is much more reasonable and more accurately reflects the magnitude of the trend in decreasing enrollments.

OCCUPATIONAL ENROLLMENTS

Table 2 presents an analysis of fall opening headcount enrollments in occupational curricula for Fiscal Years 1981 through 1985. As with the data presented in Table 1, trend changes have been computed for the years 1981 through 1984. It should be noted that the classification system for curricula was changed in Fiscal Year 1983 from the Higher Education General Information Survey (HEGIS) taxonomy and the Handbook IV Vocational Programs (OE) taxonomy to the Classification of Instructional Programs (CIP) taxonomy. In general, the new CIP classification system is much more descriptive than the former systems. In order to present the data in Table 2, it was necessary to convert 1981 through 1983 data classified under the old HEGIS system to CIP. While every effort was made to make this conversion as accurate as possible, conversions of this nature are very difficult and the possibility for error exists. As a measure to lessen the error factor and for greater ease in analysis, the data have been compiled and grouped into broad categories. The categories are groupings of related two-digit CIP areas (see Appendix). 1984 and 1985 totals for each group include students who were classified as "course enrollees". The number in parentheses immediately below the group total is the number of course enrollees included in the total.

Declining Enrollments. Using the overall occupational trend change of an 8.4 percent increase as a benchmark, it is possible to analyze changes that have occurred in occupational curricula enrollments. Seven of the seventeen areas

Table 2

FALL ENROLLMENTS IN OCCUPATIONAL CURRICULA BY FISCAL YEAR

OCCUPATIONAL PROGRAMS 1.2	FY 1981	FY 1982	FY 1983	FY 1984	Trend Change	FY 1985
AGRICULTURE	2,327	2,689	2,452	2,425	-2.6	2,244
Course Enrollment				(167)		(127)
% 1.2	2.1	2.5	2.1	2.0		2.0
% TOTAL	0.6	0.7	0.6	0.7		0.6
BUSINESS	49,068	50,016	60,848	57,721	8.3	50,930
Course Enrollment				(4,101)		(3,471)
% 1.2	45.3	44.9	51.5	47.3		45.3
% TOTAL	13.7	12.9	15.7	16.2		14.1
COMMUNICATIONS	771	754	613	802	12.5	744
% 1.2	0.7	0.7	0.5	0.7		0.7
% TOTAL	0.2	0.2	0.2	0.2		0.2
COSMETOLOGY	938	879	753	804	-6.1	896
% 1.2	0.9	0.8	0.6	0.7		0.8
% TOTAL	0.3	0.2	0.2	0.2		0.2
ENGIN. TECH.	8,423	8,819	7,819	9,224	10.4	8,370
Course Enrollment				(83)		(272)
% 1.2	7.8	7.9	6.6	7.6		7.4
% TOTAL	2.3	2.3	2.0	2.6		2.3
HEALTH	16,457	17,313	19,212	19,499	10.4	18,172
Course Enrollment				(1,073)		(1,521)
% 1.2	15.2	15.5	16.3	16.0		16.2
% TOTAL	4.6	4.5	5.0	5.5		5.0
HOME ECONOMICS	5,377	4,921	4,897	4,879	-3.7	5,254
% 1.2	5.0	4.4	4.1	4.0		4.7
% TOTAL	1.5	1.3	1.3	1.4		1.5
LEGAL ASST	272	264	269	239	-10.9	272
% 1.2	0.2	0.2	0.2	0.2		0.2
% TOTAL	0.1	0.1	0.1	0.1		0.1
TECH. WRITING	0	14	32	38	147.8	46
% 1.2	--	0.0	0.0	0.0		0.0
% TOTAL	--	0.0	0.0	0.0		0.0
LIBRARY ASST.	230	196	165	190	-3.6	118
% 1.2	0.2	0.2	0.1	0.2		0.1
% TOTAL	0.0	0.1	0.0	0.1		0.0

Table 2 (continued)

OCCUPATIONAL PROGRAMS 1.2	FY 1981	FY 1982	FY 1983	FY 1984	Trend Change	FY 1985
RECREATION	256	228	222	223	-5.2	143
% 1.2	0.2	0.2	0.2	0.2		0.0
% TOTAL	0.1	0.1	0.1	0.1		0.0
SCIENCE TECH.	0	0	0	66	100.0	64
% 1.2	--	--	--	0.1		0.1
% TOTAL	--	--	--	0.0		0.0
PUB. & PROT. SERV.	6,770	6,407	6,353	7,185	10.4	6,479
Course Enrollment				(887)		(439)
% 1.2	6.3	5.8	5.4	5.9		5.8
% TOTAL	1.9	1.7	1.6	2.0		1.8
TRADE & INDUST.	17,256	18,559	18,528	18,613	2.8	18,630
Course Enrollment						(417)
% 1.2	15.9	16.7	15.7	15.3		16.6
% TOTAL	4.8	4.8	4.8	5.2		5.2
VIS./PERF. ARTS	53	56	36	22	-54.5	24
% 1.2	0.0	0.1	0.0	0.0		0.0
% TOTAL	0.0	0.0	0.0	0.0		0.0
TOTAL 1.2	108,252	111,345	118,046	121,988	8.4	112,378

SOURCE: El Data

examined show a negative trend change. These areas included agriculture (-2.6), cosmetology (-6.1), home economics (-3.7), legal assisting (-10.9), library assisting (-3.6), recreation (-5.2), and visual and performing arts (-54.5). Three of these areas--cosmetology, home economics, and legal assisting--experienced enrollment increases in the fall of Fiscal Year 1985 which brought them close to enrollment levels in those program areas in 1981.

Growing Enrollments. Enrollment in trade and industrial programs experienced growth during the period, but that growth has not been as great as the overall occupational growth (2.8 percent compared to 8.4 percent). Unlike some of the areas that show a greater growth trend, however, increasing enrollments in trade and industrial programs have continued into 1985.

The largest area of enrollment is business with enrollments peaking in 1983 with almost 61,000 students enrolled in business programs. Since that time, enrollments have been decreasing. These trends have been influenced by enrollments in the data processing programs. While the number of job openings in data processing is relatively large, the supply of data processing professionals has increased causing the job market to be much tighter than it was. The decline in enrollments may reflect this phenomenon.

Six occupational areas show greater growth trends than experienced by the overall occupational field. Two of these areas, technical writing and science technologies, have very small enrollments and had no enrollments in 1981. Therefore, their trend change percentages are much higher than other occupational areas.

Three areas--engineering technology, health, and public and protective services--had identical trend change percentages of 10.4 percent. The largest of these three areas is health with enrollments ranging from 16,457 in 1981 to 19,499 in 1984. Enrollments in health programs increased each year until 1985 when enrollment decreased by over 1,300 students. This decrease no doubt reflects the job market in the health industry which is undergoing major changes due to federal policy on payments for health services. Despite the decrease experienced in 1985, health programs maintained their share of the occupational enrollments (approximately 16 percent). The second area with a trend change of 10.4 is engineering technology. Enrollments in this area ranged from 8,819 in 1982 to a high of 9,224 in 1984. As was the case with many occupational programs, enrollments decreased in 1985. Engineering technologies programs, however, maintained their share of the total occupational enrollments (approximately 7.5 percent). The third area was public and protective services with enrollments ranging from 6,353 in 1983 to 7,185 in 1984. Enrollments experienced a steady decrease from 1981 through 1983, increased in 1984, and then decreased again in 1985. Within the public and protective services category, changes occurred as enrollments shifted from law enforcement to corrections with the opening of new correctional centers.

Enrollments in communications programs followed the same pattern as enrollments in public and protective services. The trend change, however, was higher with a change of 12.5 percent. Enrollments ranged from a low of 613 in 1983 to a high of 802 in 1984. With the exception of 1983 when communications' share dropped slightly, the communications programs' share of total occupational enrollments has held steady at 0.7 percent.

ANNUAL CREDIT HOUR ENROLLMENTS

Enrollments in community college programs in Illinois are measured in two different ways. One way is by the student's program or curriculum assignment. This is the measurement presented in the previous sections. The other method is through the number of credit hours generated in courses assigned to various program areas. The latter gives an indication of student demand for courses offered within programs. While these two measures should provide similar indications of enrollment patterns, differences can be expected to occur because one method measures course enrollments and the other program enrollments. For example, a student enrolled in an associate in applied science in library assisting curriculum may be taking one course in library assisting and three courses designed to meet the student's general education requirement. The student would, in essence, be generating three times more credit hours in the baccalaureate/general academic area than in his/her program area. Table 3 presents a summary of annual course credit hour enrollments by the categories used for state funding purposes. Total credit hours generated show the same general pattern as fall headcount enrollment with increasing enrollment from 1981 through 1983 followed by a decline in 1984. The major difference can be observed for 1983 when fall headcount increased only slightly (0.3 percent) while credit hour enrollment increased by 7.7 percent. The trend change for the two enrollment measures is very similar with a 5.6 percent decline in fall headcount and a 5.8 percent decline in credit hour enrollment. Enrollments in the individual funding categories are discussed below.

Baccalaureate and General Academic Courses. Credit hour enrollments in baccalaureate/transfer and general academic courses have experienced annual increases since 1981 with a trend change of 8.7 percent. In comparison, fall headcount enrollments in the baccalaureate/transfer area experienced a 19.1 percent trend change. One interpretation of the difference in the two measures of enrollment is that while more students were enrolled in the baccalaureate/transfer area, they were not enrolled as full-time students and were, therefore, not generating an increase in the number of credit hours at the same rate that headcount enrollments were increasing. This difference in the rate of change can be observed in Figures 1 and 2. In Figure 1 fall opening enrollments have been grouped by funding categories for comparative purposes with credit hour enrollments which are presented graphically in Figure 2. The slope of the baccalaureate/general academic credit hour enrollment line is much smoother and less steep than the baccalaureate/transfer line for program enrollment.

Business and Service Occupational Courses. Grouped into the business and service occupational funding category are courses with the same CIP codes as programs grouped earlier in the fall enrollment section as business, cosmetology, home economics, legal assisting, recreation, public and protective services, and part of communications. Credit hour enrollments in the business and service occupational area show a trend toward decline (-28.7 percent). In part, this decline was influenced by the development of the generic course list which resulted in the reclassification of general education business courses from occupational to baccalaureate/general academic courses for funding purposes in 1984. However, the decline in program enrollments would indicate that the decline is a real one.

Table 3

UNIT COST

CREDIT HOUR ENROLLMENTS BY FUNDING CATEGORY AND FISCAL YEAR

FUNDING CATEGORY	FY 1981	FY 1982	FY 1983	FY 1984	Trend Change
BAC./GEN. ACADEMIC	2,489,848	2,663,978	2,750,127	2,865,104	8.7
% TOTAL	41.4	40.4	41.3	47.3	
BUSINESS	711,256	708,643	720,383	508,362	-28.7
% 1.2	40.3	38.1	36.6	32.4	
% TOTAL	11.8	10.7	10.8	8.4	
TECHNICAL	769,856	847,560	925,534	803,781	-5.2
% 1.2	43.6	45.6	47.0	51.2	
% TOTAL	12.8	12.8	13.9	13.3	
HEALTH	285,113	304,468	324,338	258,288	-15.2
% 1.2	16.1	16.4	16.5	16.4	
% TOTAL	4.7	4.6	4.9	4.3	
REMEDIAL	134,094	153,004	170,404	225,864	48.1
% TOTAL	2.2	2.3	2.6	3.7	
ABE/ASE	1,107,625	1,299,624	1,192,434	927,962	-22.7
% TOTAL	18.4	19.7	17.9	15.3	
GENERAL STUDIES	381,724	450,392	398,908	310,945	-24.2
% TOTAL	6.3	6.8	6.0	5.1	
VOC. SKILLS	140,168	172,436	169,071	153,311	-4.8
% TOTAL	2.3	2.6	2.5	2.5	
TOTAL	6,019,684	6,600,105	6,651,199	6,053,617	-5.8
% TOTAL	100.0	100.0	100.0	100.0	
ANNUAL % CHANGE	--	9.6	7.7	-9.0	

SOURCE: Unit Cost Study Report

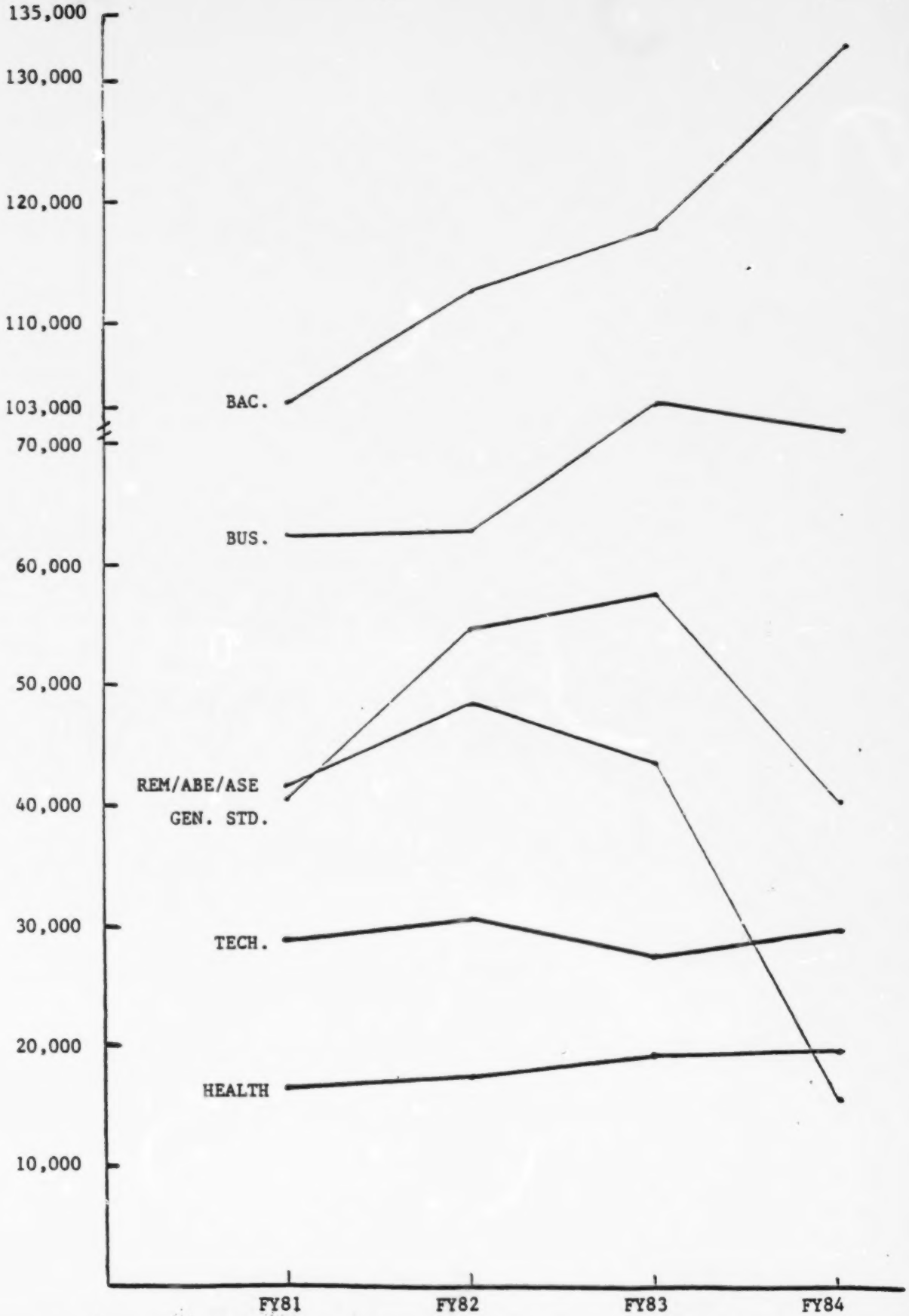

FIGURE 1. FALL HEADCOUNT ENROLLMENT BY FUNDING CATEGORY

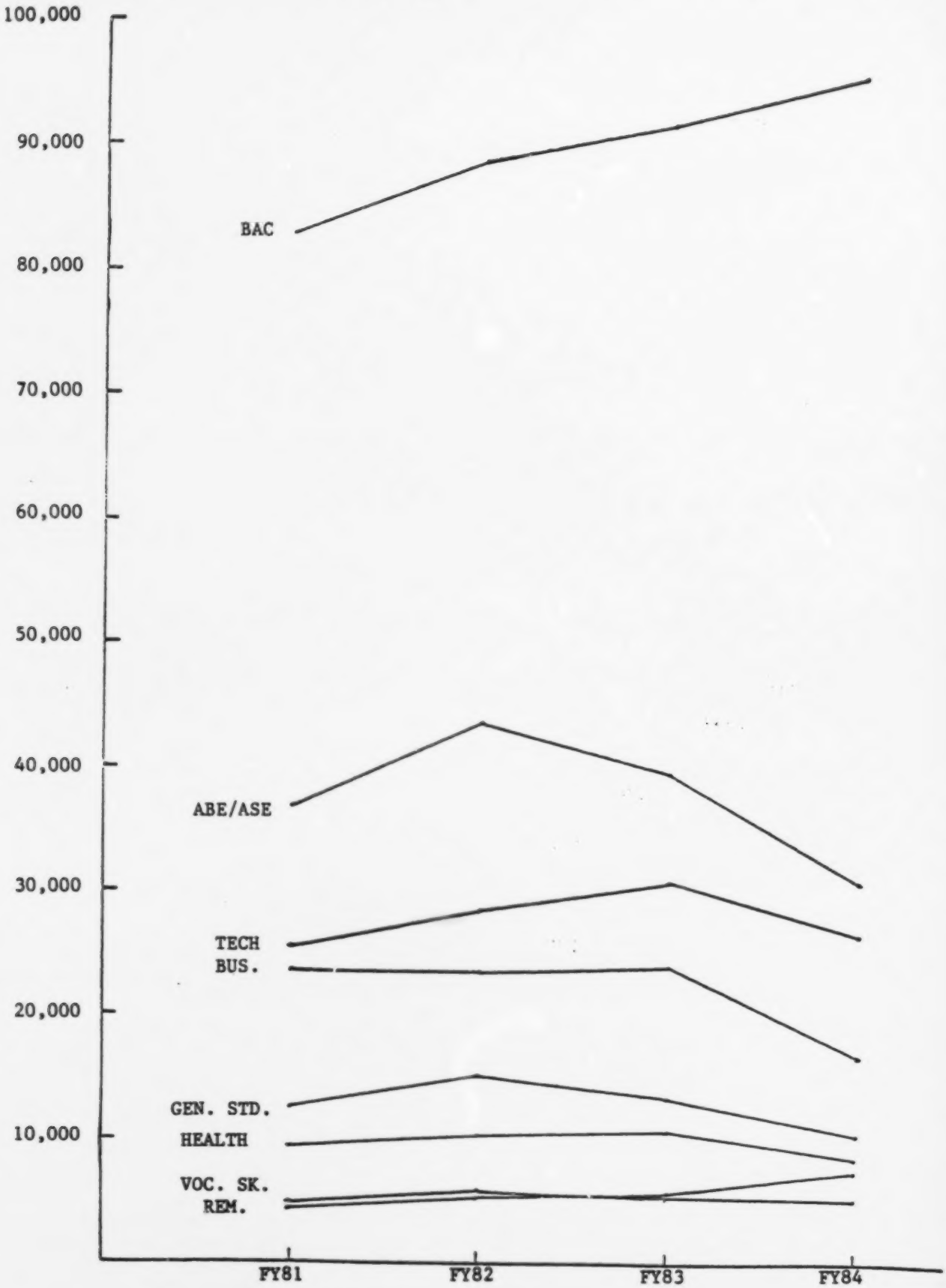

FIGURE 2. CREDIT HOUR FTE BY FUNDING CATEGORY

Technical Occupational Courses. Grouped into the technical occupational funding category are courses with the same CIP codes as programs grouped in the fall enrollment section as agriculture; the data processing, travel, and marketing portions of business; the technical portion of communications; parts of home economics; engineering technologies; and trade and industrial. The trend change of -5.2 for enrollments in technical courses indicates a decline in this area. Examination of credit hour enrollments on an annual basis shows that enrollments increased from 1981 through 1983 but experienced a sharp decline in 1984. (As occurred in the business and services category, general education courses that had been coded previously as technical occupational were recoded as baccalaureate and general academic in 1984.) This pattern is somewhat different from that observed for program enrollments during this time period. Program enrollments experienced a decline in 1983 for most of the associated programs followed by an increase in 1984.

Health Occupational Courses. Unlike program enrollments in health which show a trend toward growth during the 1981 through 1984 period, course credit hour enrollments in the health area show a trend toward decline (-15.2 percent). As was the case with technical course enrollments, increases occurred through 1983 followed by a sharp decline in 1984. Once again, course coding changes had an effect on credit hour enrollments for the health area. The decline in program enrollments is not observed until 1985.

Remedial Education Courses. Remedial education shows the largest growth of any of the credit hour funding categories (48.1 percent). This is caused in part by the redefinition of remedial education that occurred in 1984. However, there is little doubt that enrollments in remedial courses have been increasing steadily in community colleges as colleges have developed better testing and placement for their students. This increase is not reflected in remedial headcount enrollment since many students are taking remedial courses along with courses in their chosen program areas. Under these circumstances, the students are classified in their respective program areas.

ABE and ASE Courses. Credit hour enrollments in adult basic and adult secondary education courses peaked in 1982 and then declined through 1984 (-22.7 percent). The major decline is due to a significant decline in enrollment in these areas at City Colleges of Chicago in 1984.

General Studies Courses. Credit hour enrollments in general studies courses show a declining trend (-24.2 percent). Enrollments during the period under study peaked in 1982 and declined in 1983 and 1984. Fall program enrollments do not show the decline until 1984.

Vocational Skills Courses. Vocational skills courses are included in the business, technical, and health funding categories for funding purposes. For this study these credit hour enrollments have been pulled out of their respective funding categories so that comparisons can be made with fall program enrollments. Credit hour enrollments show a trend toward decline (-4.8 percent). The largest number of credit hours generated in vocational skills courses occurred in 1982 and have been followed by declining enrollments since that time. As with general studies program enrollments, the decline in vocational skills program enrollments did not occur until 1984.

PROGRAM COMPLETIONS

Another way of analyzing shifts in student demand for programs is by reviewing the number of students who complete or graduate from programs in community colleges. Table 4 presents data on the number of completers by program area for the Fiscal Years 1981 through 1984. Because of the fluctuation in the numbers, a trend change has been computed by calculating a percent change between the average number of completers for the first three years and the final year's data. As was the case with program enrollments, it should be noted that because of the initiation of the new CIP taxonomy, it was necessary to convert Fiscal Years 1981 and 1982 data from the former HEGIS taxonomy. As these taxonomies do not cross directly, the reader should be aware of possible conversion error.

The total number of graduates from Illinois community college programs has continued to increase during the four-year period under study. In 1981, 21,735 students received either certificates or associate degrees. In 1982, the number rose to 26,931 - an increase of 23.9 percent. During the final two years, 1983 and 1984, the number of completers increased at a slower rate with 27,882 and 28,196 graduates, respectively. It is possible to receive certificates and degrees in three major program areas--baccalaureate/transfer, occupational, and general studies. Approximately one-third of the graduates are in the baccalaureate/transfer area. Almost two-thirds are in the occupational area, and general studies graduates account for approximately two percent of the graduates from community colleges. The following sections discuss the changes that have taken place in these three program areas. Figure 3 groups completion data in categories similar to credit hour funding categories so that completions can be compared graphically to fall enrollments (Figure 1) and credit hour enrollments (Figure 2).

Baccalaureate/Transfer. The number of students receiving Associate in Arts and Associate in Science degrees from Illinois community colleges has increased each year since 1981 with a trend change of eight percent. The area's share of total completions has varied, however, during the four-year period. In 1981, baccalaureate/transfer students comprised 37.9 percent of the total completions. In 1982, the share decreased to 31.6 percent and increased to over 33 percent in 1983 and 1984.

Occupational. The total number of occupational certificates and degrees awarded increased from 12,924 in 1981 to 18,231 in 1984. The largest increase occurred between 1981 and 1982 with a 37.9 percent increase. The occupational programs' share of total completions peaked in 1982 when occupational completers comprised 66.2 percent of all completions. Since that time the proportion of occupational completers has decreased slightly to 64.9 percent in 1983 and 64.7 percent in 1984.

Six occupational areas show negative trend changes. Decreases in the number of completers have occurred in agricultural (-15.5 percent), legal assisting (-14.5 percent), library assisting (-9.6 percent), recreation (-20.3 percent), public and protective services (-7.4 percent), and visual and performing arts (-73.9 percent) programs. With the exception of public and protective services, these are the same areas showing enrollment declines during the same time period.

Table 4

PROGRAM COMPLETIONS BY FISCAL YEAR

PROGRAM AREAS	FY 1981	FY 1982	FY 1983	FY 1984	Trend Change
1.1					
BAC./TRANSFER	8,242	8,515	9,352	9,403	8.0
% 1.1	100.0	100.0	100.0	100.0	
% TOTAL	37.9	31.6	33.5	33.3	
1.2					
AGRICULTURE	583	593	513	476	-15.5
% 1.2	4.5	3.3	2.8	2.6	
% TOTAL	2.7	2.2	1.8	1.7	
BUSINESS	3,773	4,928	5,479	5,692	20.4
% 1.2	29.2	27.7	30.3	31.2	
% TOTAL	17.4	18.3	19.7	20.2	
COMMUNICATIONS	94	124	136	124	5.1
% 1.2	0.7	0.7	0.8	0.7	
% TOTAL	0.4	0.5	0.5	0.4	
COSMETOLOGY	314	422	274	372	10.5
% 1.2	2.4	2.4	1.5	2.0	
% TOTAL	1.4	1.6	1.0	1.3	
ENGIN. TECH.	919	1,177	1,245	1,114	0.0
% 1.2	7.1	6.6	6.9	6.1	
% TOTAL	4.2	4.4	4.5	4.0	
HEALTH	3,814	5,410	5,568	5,946	20.6
% 1.2	29.5	30.4	30.8	32.6	
% TOTAL	17.5	20.1	20.0	21.1	
HOME ECONOMICS	762	786	744	778	1.8
% 1.2	5.9	4.4	4.1	4.3	
% TOTAL	3.5	2.9	2.7	2.8	
LEGAL ASST.	72	70	51	55	-14.5
% 1.2	0.6	0.4	0.3	0.3	
% TOTAL	0.3	0.3	0.2	0.2	
TECH. WRITING	0	9	8	9	58.8
% 1.2	0.0	0.1	0.0	0.0	
% TOTAL	0.0	0.0	0.0	0.0	

Table 4 (continued)

PROGRAM AREAS	FY 1981	FY 1982	FY 1983	FY 1984	Trend Change
LIBRARY ASST.	32	39	12	25	-9.6
% 1.2	0.2	0.2	0.1	0.1	
% TOTAL	0.1	0.1	0.0	0.1	
RECREATION	71	50	56	47	-20.3
% 1.2	0.5	0.3	0.3	0.3	
% TOTAL	0.3	0.2	0.2	0.2	
SCIENCE TECH.	45	19	13	5	-80.5
% 1.2	0.3	0.1	0.1	0.0	
% TOTAL	0.2	0.1	0.0	0.0	
PUB. & PROT. SERV.	773	1,208	1,066	940	-7.4
% 1.2	6.0	6.8	5.9	5.2	
% TOTAL	3.6	4.5	3.8	3.3	
TRADE & INDUST.	1,666	2,974	2,924	2,646	4.9
% 1.2	12.9	16.7	16.2	14.5	
% TOTAL	7.7	11.0	10.5	9.4	
VIS./PERF. ARTS	6	13	4	2	-73.9
% 1.2	0.0	0.1	0.0	0.0	
% TOTAL	0.0	0.0	0.0	0.0	
OCCUPATIONAL TOTAL	12,924	17,822	18,093	18,231	
% 1.2	100.0	100.0	100.0	100.0	
% TOTAL	59.5	66.2	64.9	64.7	
1.5					
General Studies	569	594	437	562	5.4
% 1.5	100.0	100.0	100.0	100.0	
% TOTAL	2.6	2.2	1.6	2.0	
TOTAL	21,735	26,931	27,882	28,196	10.5
% TOTAL	100.0	100.0	100.0	100.0	
Annual % Change	--	23.9	3.5	1.1	

SOURCE: C1 Data

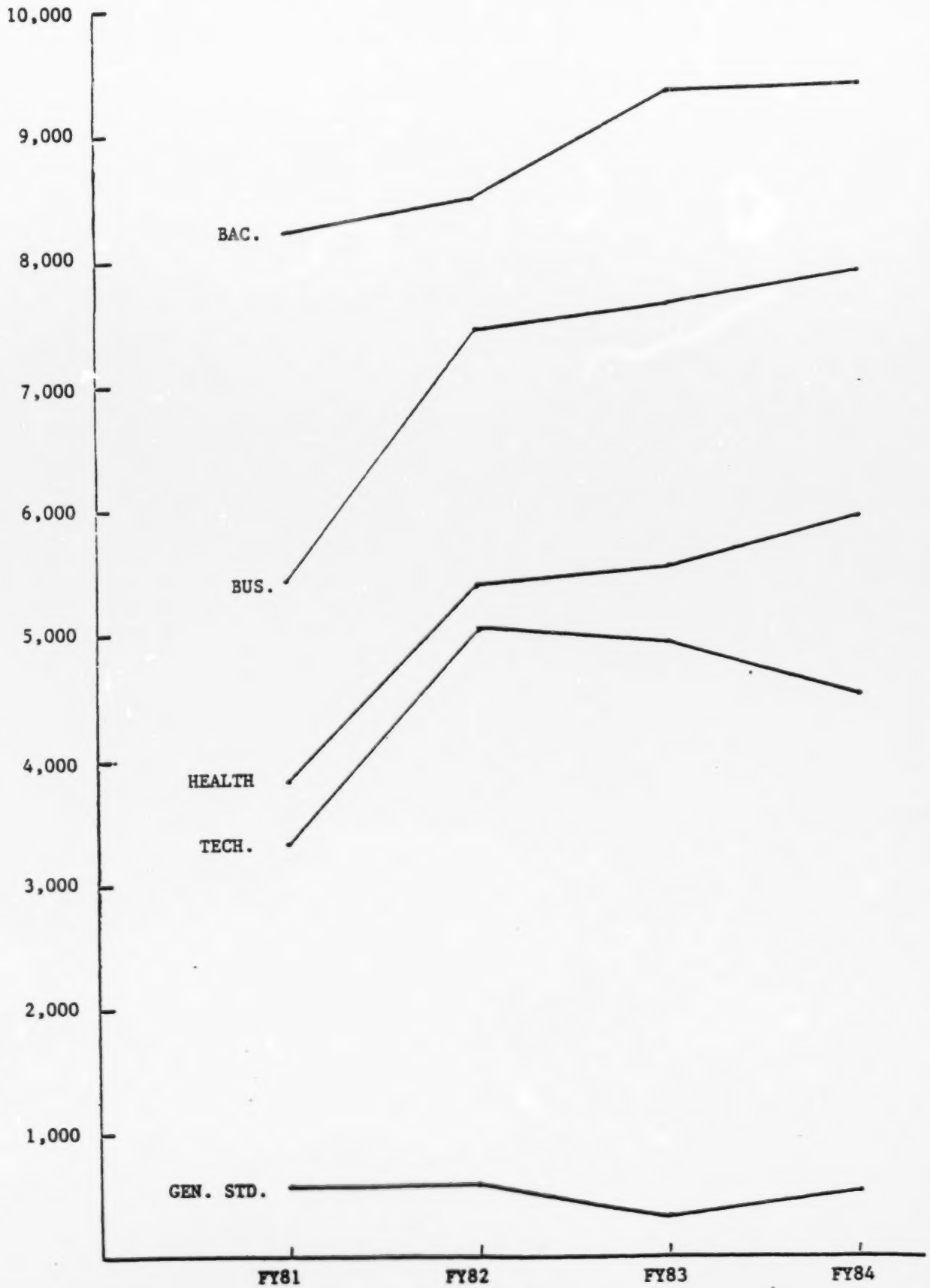

FIGURE 3. ANNUAL COMPLETIONS BY FUNDING CATEGORY

A seventh area, science technologies, also shows a decline in completions. However, a problem in conversion from HEGIS to CIP creates a situation in which completions are shown for the program area in 1981 through 1983 but no enrollment data are available. It is, therefore, difficult to draw conclusions from the data.

One program area shows a trend change of zero. Engineering technology programs experienced a growth in the number of completions from 1981 through 1983. However, the declining number of completions in 1984 compared with the average completions of the three previous years were equal. Since most engineering technology programs are two-year programs, the decline in the number of completers in 1984 is indicative of the decline in enrollments in 1983. Since enrollments increased again in 1984, one would expect completions also to increase in the future.

Seven occupational program areas have trend change increases for the four-year period. Four of these, however, are less than the overall trend change of 12 percent for all occupational programs. Communications programs had a trend change of 5.1 percent. These programs had increases in the number of completers between 1981 and 1983 but decreases in the number of completers in 1984. As was the case with engineering technology programs, communications programs showed a decrease in enrollments in 1983 which affected the number of completions in 1984. Enrollments in this area increased in 1984 leading one to believe that the decline in the number of completions in 1984 may be an anomaly.

Cosmetology shows a trend change of 10.5 percent. Since cosmetology is primarily a one-year program, enrollment and completion patterns should be similar. This is not the case. While the enrollment trend shows a decrease, completion trends show an increase.

Home economics is another program area which shows a slight trend toward increased completions (1.8 percent) while enrollments in the programs show a trend toward decline (-3.7 percent).

While the trend change in completions in trade and industrial programs would indicate the number of graduates is increasing (4.9 percent), a year-by-year examination of the data reveals this is misleading. A large increase in the number of graduates occurred in 1982 when the number increased from 1,666 in 1981 to 2,974 in 1982. Since that time there has been a yearly decrease in completers of these programs.

Two program areas account for the overall positive trend change in the number of graduates in occupational programs. The first of these, health, has consistently had the largest number of graduates in the occupational area. In 1981 there were 3,814 graduates in health programs. By 1984 the number had climbed to 5,946 with a trend change of 20.6 percent. As noted in the section on fall enrollment, enrollments in health programs show a relatively sharp decline in 1985. It remains to be seen whether completions in 1986 reflect this enrollment decline.

The second program area accounting for the overall trend toward increasing completions in occupational programs is business. The business area has the largest number of enrollments and the second largest number of completers. In 1981 3,773 students graduated from business programs. The number of graduates for 1982 through 1984 were 4,928, 5,479, and 5,692, respectively, resulting in a trend change of 20.4 percent. A decline in enrollment, begun in 1983, has not yet been reflected in the number of completers.

The largest trend change is found in technical writing programs. However, the number of graduates is very small, and no completers were reported for 1981 causing the trend change to be higher than for more established program areas.

General Studies. A trend change of 5.4 indicates the number of completers of general studies programs is increasing. There has been considerable fluctuation in the number of general studies completers. The largest number of completers occurred in 1982 when 594 students received awards in the general studies area. The smallest number of graduates, 437, occurred in 1983. Examination of the share of total graduates shows that the largest share occurred in 1981 when 2.6 percent of the total number of students receiving certificates and degrees from community colleges were in the general studies area. The share declined to a low of 1.6 in 1983 and increased slightly to two percent in 1984.

RATIO OF COMPLETIONS TO FALL ENROLLMENTS

It is always risky to try to make comparisons between enrollments and completions in community college programs. There are a number of problems involved. Community colleges serve many students who have no intention of completing a certificate or degree. Community college enrollments include students taking courses for personal and intellectual enrichment, students needing a few courses to enhance their job skills either to obtain employment or to improve their current job status, students giving college a "try", and students intending to transfer to another institution before actually completing the requirements for a transfer degree. All of these are legitimate reasons for enrolling in a community college and are within the scope and mission of the community college system. Additionally, nearly 75 percent of the students enrolled in community colleges are attending on a part-time basis, either carrying a small number of credit hours or attending intermittently. Various program areas include both two-year degree programs and shorter term certificate programs requiring varying numbers of credit hours needed to complete. All of these factors make it extremely difficult to interpret completion ratios. Despite these factors, completion ratios have been calculated for this study in order to glean some understanding of differences between attendance and completion patterns in various program areas. The ratios were computed by dividing the number of completers or graduates by the number of students enrolled at the time that fall opening enrollments were determined. Therefore, the actual numerical value of the ratio is meaningless. However, the trend change and comparisons between program ratios will be of value. The ratios of completions to fall headcount program enrollments are presented in Table 5.

Table 5

RATIO OF COMPLETIONS TO FALL HEADCOUNT PROGRAM ENROLLMENTS
BY FISCAL YEAR

PROGRAM	FY 1981	FY 1982	FY 1983	FY 1984	Trend Change
1.1 BAC./TRANSFER	8.0	7.6	7.9	8.0	2.1
1.2 AGRICULTURE	25.1	22.1	20.9	21.1	-7.0
BUSINESS	7.7	9.9	9.0	10.6	19.5
COMMUNICATIONS	12.2	16.4	22.2	15.5	-8.5
COSMETOLOGY	33.5	48.0	36.4	46.3	17.8
ENGIN. TECH.	10.9	13.3	15.9	12.2	-8.7
HEALTH	23.2	31.2	29.0	32.3	16.2
HOME ECONOMICS	14.2	16.0	15.2	15.9	5.1
LEGAL ASST.	26.5	26.5	19.0	23.0	-4.2
TECH. WRITING	--	64.3	25.0	23.7	-20.4
LIBRARY ASST.	13.9	19.9	7.3	13.2	-3.6
RECREATION	27.7	21.9	25.2	21.1	-15.4
SCIENCE TECH.	--	--	--	7.6	100.0
PUB./PROT. SERV.	11.4	18.9	16.8	14.9	-5.1
TRADE & INDUST.	9.7	16.0	15.8	14.2	2.7
VIS./PERF. ARTS	11.3	23.2	11.1	9.1	-40.1
1.2 TOTAL	11.9	16.0	15.3	15.9	10.4
1.5 GENERAL STUDIES	1.4	1.1	0.8	1.4	27.3

SOURCES: E1 and C1 Data

Baccalaureate/Transfer Ratios. Completions compared to enrollments in baccalaureate/transfer programs are increasing. The trend toward increased completion ratios began in 1982 following a decrease that occurred between 1981 and 1982. In comparing baccalaureate/transfer to occupational program completion rates, baccalaureate/transfer completions tend to be lower. The 1979 Transfer Study indicates that over 60 percent of the students transferring from community colleges had not received transfer degrees before transferring. It is, therefore, understandable that the completion ratio is lower for transfer students than for students enrolled in non-transferable occupational programs.

Occupational Ratios. The completion rates for students in occupational programs have also increased since 1981. The overall trend change in completion rates for occupational students is 10.4 percent. As can be expected from the previous discussion of enrollments and completions, there is considerable variation among the various occupational program areas both in completion rates and in trend changes. The program area with the highest completion rate is cosmetology. There are at least two factors influencing this rate: most cosmetology programs are one year in length and part-time enrollment is limited.

Another program area with relatively high completion ratios is health. A possible factor in the higher completion rates in health programs is that most health programs have selection criteria for the admission of students into the programs. The fact that part-time enrollments are limited in these programs is also a factor in these rates. In both health and cosmetology the trend is for increasing completion ratios.

In addition to health and cosmetology, three other program areas have positive trend changes in completion ratios. While the business area has a relatively low completion rate, the trend toward increased rates is seen. Business programs traditionally have had large part-time enrollments and many students taking business courses do not complete the full curriculum. A trend in increased completion rates is observed for the home economic area and to a lesser degree for trade and industrial program students.

SUMMARY AND CONCLUSIONS

Four indicators of student demand were used in the study. The first, opening student headcount for the fall terms, gives an indication of the actual number of students enrolled in various program areas. The second, credit hours generated in courses within program areas, provides an indication of the demand for courses by program area. The third, program completions, gives an indication of changes in the type of programs in which students are graduating. The fourth, a comparison of the relationship between program enrollments and completions, provides still another perspective on changing student demand. While this fourth measure is not a direct measure of student demand, it provides a measure of persistence and changing enrollment patterns and is, thus, a proxy measure of demand.

An analysis of student demand by community college programs for the four-year period Fiscal Years 1981 through 1984 indicates that changes and shifts in enrollment and completion patterns have taken place. Overall, the enrollment in community colleges decreased while the number of students completing programs increased during this four-year period. Since there tends to be a lag between the time of initial enrollment and time of completion, the growth trend in completions may be the result of increased enrollments in the earlier years of the study. The decline in enrollments during the last two years of the study occurred, however, in the area of remedial/adult basic/adult secondary education which has no program completers and the general education area which has relatively few program completers.

In the baccalaureate/transfer program area all four measures of change in student demand indicate a growth trend. Not only are enrollments as measured by headcount and credit hours increasing, but also its share of total enrollment. Headcount enrollment is growing at a faster rate than credit hour enrollment which indicates that more students are enrolling on a part-time basis.

While the overall demand for occupational programs appears to be increasing, the credit hours generated have decreased indicating that although part of the decrease in credit hours is due to coding changes, part-time enrollment probably is also increasing in the occupational area. Demand among the occupational programs is varied. A summary of each occupational program area follows.

The largest occupational program area is business. In general, the demand in the business area appears to be increasing at a moderate rate. However, there are some indications that the demand may be decreasing. Both headcount and credit hours in business decreased in 1984. The number of completers, however, continued to increase through 1984. This phenomenon may be due to the time lag which occurs between initial enrollment and completion. The business area should be monitored during the next few years to see if the trend is changing.

The second largest occupational program area is health. Student demand for health programs was strong through 1984 with headcount enrollments experiencing average increases, and completions rapid increases. As with the business area, however, there are some indications that this growth trend may be changing. Credit hours generated in health courses in 1984 declined as did headcount enrollment in 1985. Examination of 1984 and 1985 data for detailed health programs shows that while the major decline is accounted for by enrollment in the two largest health programs, practical and associate degree nursing, enrollments in nineteen of the thirty-one health areas also decreased. This program area should be monitored in the future.

The third largest occupational program area is trade and industrial education. While this area experienced a moderate decline in credit hours generated, all other indicators appear to indicate the area is experiencing moderate growth compared to other occupational programs.

Enrollments in the fourth largest program area, engineering technology programs, are increasing at an average rate. Similar to several of the occupational programs, enrollment decreased slightly in 1983 but increased again in 1984. Completions in this program area increased through 1983 but declined in 1984 resulting in a four-year trend change of zero.

Enrollments in public and protective services programs declined through 1983 followed by a sharp increase in 1984 resulting in an average positive trend change. Completions during the four-year period declined.

Home economics programs had an average decrease in enrollments and a moderate increase in completions and completion ratios during the four-year study period. Enrollments experienced a steady decline from 1981 through 1984. This trend was reversed in 1985 when enrollment increased almost to the enrollment level of 1981.

Student demand for agricultural programs is decreasing. Both enrollments and completions in agricultural programs peaked in 1982 and have been declining since that time.

Enrollments in the remaining occupational program areas are small and, thus, do not have a major impact on enrollments and completions as a whole. However, they should not be overlooked as far as the impact that changes have on their respective employment areas.

Communications programs are experiencing moderate to average growth in both enrollments and completions. Growth rates for the two factors, along with the trend in completion ratios, indicate that enrollments are growing faster than completions.

While cosmetology is experiencing an average decline in enrollments, completions and completion ratios are increasing. Since cosmetology programs are one-year programs, lag time between enrollment and completion data is not a major factor.

All indicators show a decline in demand for legal assisting programs. Not only have enrollments and completions decreased, but, the completion ratios indicate completions are decreasing at a faster rate than enrollments.

The technical writing area is small both in terms of enrollments and completions. Enrollments have increased rapidly since 1982 while completions have remained steady.

The demand for library assisting is declining although enrollment and completions were up slightly in 1984. Completion ratios have declined during the four-year period.

Student demand in the recreational and the visual and performing arts program areas is also declining both in terms of enrollment and completions.

In summary, the overall demand for occupational programs increased during the four-year period. That increased demand is not consistent among the various occupational program areas, however. While a cursory examination of labor market demand indicates that the student demand changes are consistent with the labor market demand, this needs further investigation.

In conclusion, student demand as measured by enrollment and completion patterns in Illinois public community colleges experienced some major shifts in the early 1980s. In general, program enrollments are declining, particularly in the areas of adult basic and adult secondary education. The number of credit hours generated by courses is declining in all areas except the baccalaureate and remedial program areas. This means that even in many program areas that are not experiencing declines in the number of students enrolled, students are taking fewer credit hours.

Current and future shifts in student enrollment patterns and completion rates make it necessary to analyze the changes in student demand for community college programs on an annual basis. This study identifies a number of program areas in which the student demand seemed to be changing during the last few years. Monitoring trends is critical during the next few years to determine which direction they will lead. Future studies need to develop a data base which will have the capability of analyzing more specific program areas and of comparing the student demand measures with labor market demand. Only by keeping abreast of trends in student demand and labor market needs can the community college system be responsive to the needs of students and commerce and industry.

12/85

APPENDIX

OCCUPATIONAL PROGRAM GROUPS
for
SHIFTS IN ENROLLMENT AND COMPLETION PATTERNS

GROUP	CIPs
Agriculture	01, 03
Business	06, 07, 08
Communications	09, 10
Cosmetology	12
Engineering Technologies	15
Health	17, 18
Home Economics	04, 19, 20
Legal Assisting	22
Technical Writing	23
Library Assisting	25
Recreation	31
Science Technologies	41
Public and Protective Services	43, 44
Trade and Industrial	46, 47, 48, 49
Visual and Performing Arts	50

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